

NEW SPECIES IN THE GENUS *EUCERCERIS*  
WITH NOTES ON RECORDED SPECIES AND  
A REVISED KEY TO THE GENUS  
(Hymenoptera: Sphecidae)

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(continued)

*Eucerceris mellea* Scullen, new species

Figs. 5A, B, C, D, E, F; 14

This species is being described from a series taken mostly in the Chisos Mt., in the Big Bend Park of Western Texas. Many males were taken but only one female. Both sexes are easily separated from other known species.

*Female.* Length 13 mm. Head slightly wider than thorax, normally pitted, clothed with short amber hairs; mandibles with an undivided tooth, yellow to ferruginous becoming fuscous on the tips and denticles; clypeus broad and short with a low rounded cone-shaped elevation on the media lobe, yellow except for borders and denticles, with two lateral undivided denticles and a medial trilobed process on the apical border of the medial lobe; antennæ normal in form, ferruginous proximally becoming darker distally; front narrowed dorsally, yellow to fulvous except for black vittæ extending through the antennal scrobes to and along the dorsal clypeal border; vertex fuscous to black; occiput and genæ ferruginous.

Thorax moderately pitted and clothed with amber hairs, black to fuscous except posterior ridge of pronotum, scutellum, metanotum, large areas on the sides of the propodium, prothoracic tubercles, spots back of tubercles, tegula and small patches on the meso- and metasternum which are ferruginous to yellow; enclosure deeply ridged parallel to base; legs ferruginous; wings subhyaline with the anterior half of the forewing clouded, second submarginal cell petiolate. (Fig. 5B).

Abdomen sparsely pitted on convex areas, closely and finely pitted on concave areas; tergum yellow except medial parts of depressed areas on tergites 2, 3 and 4 and borders of tergites which are ferruginous; venter ferruginous except for broad bands of yellow on sternites 3, 4 and 5 and on irregular area on sternite 2;

pygidial area (fig. 5C) oval, truncate proximally, bordered by a carina and fringed with a row of amber bristles.

*Male.* Length 13 mm. Head slightly wider than the thorax, punctation medium, clothed with silvery hairs becoming a compact row on the apical border of the lateral wings of the clypeus; mandibles nondentate, ferruginous becoming darker distally; clypeus tridentate on the apical border of the medial lobe, yellow except apical and dorsal margins; antennæ normal in form, ferruginous becoming darker distally; front narrowed dorsally, yellow except for black vittæ extending through antennal scrobes and wedge-shaped extensions of black in contact with the compound eyes; vertex black, occiput black becoming ferruginous on the genæ.

Thorax moderately pitted, black except fulvous band on posterior border of prothorax, triangular area back of tubercle, spot on tegula, metanotum and small patches on the mesa- and metasternum; sutellum ferruginous; enclosure moderately ridged with ridges subparallel to base; legs ferruginous, becoming darker proximally and lighter distally; wings subhyaline with a darkened area on the forewing extending along the distal two thirds of the anterior half; second submarginal cell not petiolate. (Fig. 5E).

Abdomen sparsely pitted on convex areas and closely and finally pitted on concave areas; tergum with yellow bands on convex ridges of tergites 2, 3, 4 and 5; tergite 1 fulvous distally becoming very dark proximally; tergite 6 with a broad yellow band, depressed areas ferruginous; sternites 3 and 4 with broad yellow bands; sternite 5 with yellow patches laterally, with a short divided compact row of bristles on the posterior border; pygidial area normal (Fig. 5F).

Holotype, female, Calif. Acad. Sci., Ent., Allotype, male, Calif. Acad. Sci., Ent., CHISOS MTS., BIG BEND PARK, TEX., July 6, 1942 (H. A. Scullen). Paratypes, 44 males, Chisos Mts., Big Bend Park, Tex., July 3 to 6, 1942 (H. A. Scullen); 8 males, *ibid.*, July 6, 1942, (E. C. Van Dyke); male, Chisos Mts., Brewster Co., Tex., July 17, 1921, (Carl D. Duncan); male, Davis Mts., Jeff Davis Co., Tex., June 26, 1942 (H. A. Scullen).

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#### EXPLANATION OF FIGURES

Fig. 4B. *E. melanovittata*, ♂, fore wing; 4C. ♂, pygidial area. Fig. 5A. *E. mellea*, ♀, face; 5B. ♀, fore wing; 5C. ♀, pygidial area; 5D. ♂, face; 5E. ♂, fore wing; 5F. ♂, pygidial area. Fig. 6A. *E. arenaria*, ♀, face; 6B. ♀, fore wing; 6C. ♀, pygidial area; 6D. ♂, face; 6E. ♂, fore wing; 6F. ♂, pygidial area. Fig. 7A. *E. baja*, ♂, face; 7B. ♂, fore wing; 7C. ♂, pygidial area. Fig. 8A. *E. hespera*, ♂, face; 8B. ♂, fore wing; 8C. ♂, pygidial area.

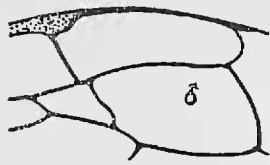


Fig. 4B

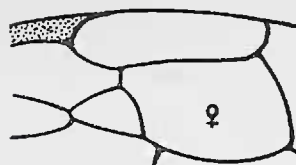


Fig. 5B

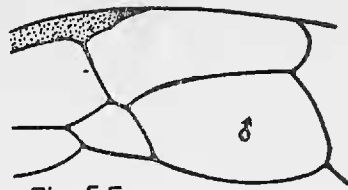


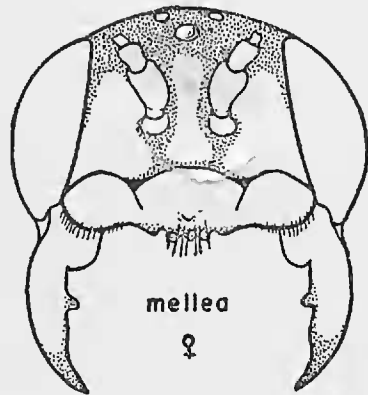
Fig. 5E



Fig. 4C

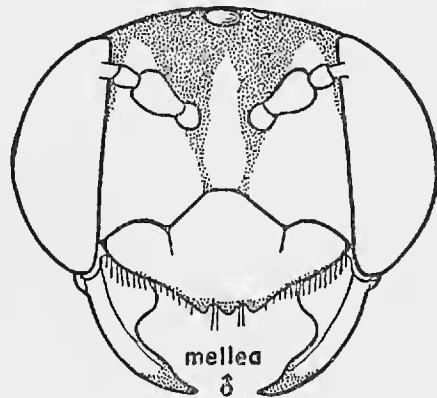


Fig. 5C



mellea ♀

Fig. 5 A



mellea ♂

Fig. 5 D

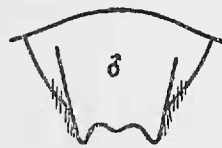
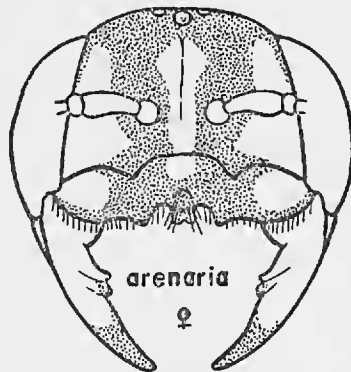
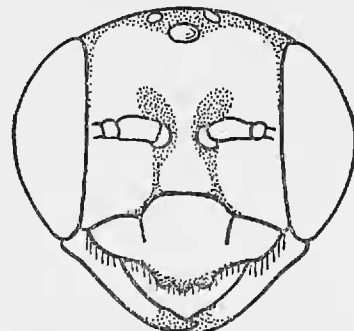


Fig. 5 F



arenaria ♀

Fig. 6 A



arenaria ♂

Fig. 6 D



Fig. 6 B



Fig. 6C



Fig. 6 F

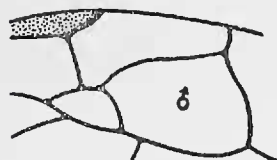
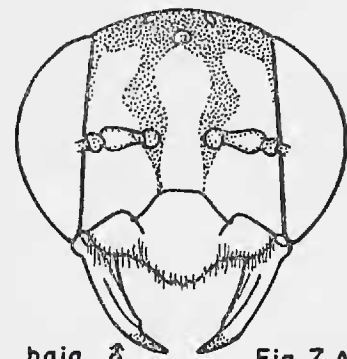


Fig. 6 E

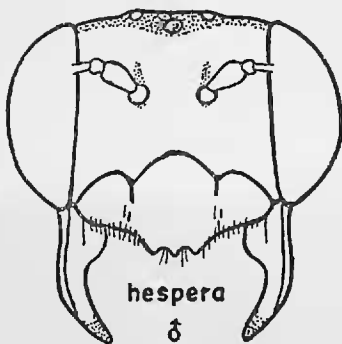


Fig. 8 C



baja ♂

Fig. 7 A



hespera ♂

Fig. 8 A

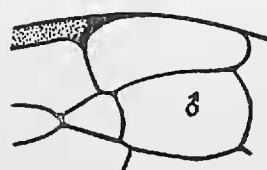


Fig. 8 B



Fig. 7 C

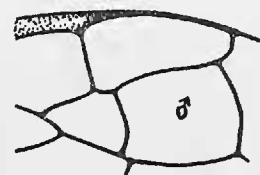


Fig. 7 B

## EUCERCERIS FULVIPES Cresson

Collections of both males and females of this species in Alberta, at Medicine Hat, Lethbridge and Mannyberries by E. H. Strickland and F. S. Carr extend the range much further northeast than it has heretofore been recorded.

*Eucerceris arenaria* Scullen, new species

Figs. 6A, B, C, D, E, F; 15

This species superficially resembles *E. vittatifrons* Cresson. The males are easily separated from *vittatifrons* by the fact that the second submarginal cell is not petiolate as in that species, and the pale vittæ of the face are united above the antennæ. One male from near Mesa, Ariz., did not have the pale vittæ fused above the antennæ. It was not included in the type series. The females of the two species are separated by the more pronounced elevation on the medial lobe of the clypeus in *arenaria*, the slightly different color pattern on the faces and the differences in the denticles on the mandibles. *E. arenaria* is so far recorded only from the southwest deserts. (Fig. 15).

*Female.* Length 11 mm. Black with cream colored markings. Head moderately pitted, subequal to thorax in width, black except for cream colored vittæ which extend along the mesal borders of the compound eyes and onto the lateral wings of the clypeus, a narrow cream vitta between the antennæ extending the same distance dorsally as the lateral markings of the face, and elongated creamy patches lateral of the eyes; mandibles with two closely joined teeth equal in prominence but the distal one much broader, fuscous becoming darker at the tip and on the denticles; clypeus short and broad with a somewhat cone-shaped process on the medial lobe, two broadly separated single acute teeth on the apical clypeal border between which is a short row of long bristles below which in turn is a truncate process; antennæ normal in form, ferruginous proximally becoming darker distally.

Thorax somewhat sparsely pitted, sparsely clothed with very short hairs, black except for narrow band on posterior border of prothorax extending from and including the tubercles, two small lateral spots on the mesoscutellum, the metanotum, small triangular spots back of the tubercles and pyriform patches on the propodium which are cream colored; enclosure with prominent ridges subparallel to the base; sternum black to fuscous, creamy spot on mesosternum; legs ferruginous becoming fuscous on coxæ; wings almost colorless except for a clouded area in the region of the marginal cell and apex of the fore wing; second submarginal cell petiolate (Fig. 6B).

Abdomen sparsely punctate; tergum black with narrow creamy white bands on the posterior ridges of tergites 2, 3, 4 and 5, a broad emarginate band on tergite 1; venter fuscous; pygidial area (Fig. 6C) oval tapering distally.

*Male.* Length 11 mm. Head subequal to thorax in width, moderately punctate, clothed with very short setæ becoming longer along the clypeal border and forming a cluster on the apical borders of the lateral wings of the clypeus; mandibles nondentate, yellow and ferruginous with dark tips; clypeus creamy yellow except for the apical border and lines partly dividing the lateral wings from the medial lobe, which are black, tridentate on the apical border of the medial lobe; antennæ normal in form, ferruginous becoming darker distally; front creamy yellow with pale vittæ meeting above the antennæ, black vittæ narrow, extending through the antennal scrobes and onto the clypeus; vertex, occiput and genæ black except for irregular oval patches on the genæ.

Thorax somewhat sparsely pitted, clothed with very short hairs, black except for band on posterior border of thorax extending from and including the tubercles, band on mesoscutellum, metanotum, two small areas back of the tubercles on the mesopectus, pyriform areas on the propodium, patches on meso- and metasternum which are cream colored; enclosure deeply ridged subparallel to base; legs ferruginous with some yellow on coxæ, and the pro- and mesafemora and tibiæ; wings subhyaline except for clouded area on the fore wing in the region of the second submarginal cell and adjoining cells; second submarginal cell not petiolate. (Fig. 6E).

Abdomen moderately pitted, black with wide creamy bands on tergites 1 and 2, narrower bands on tergites 3, 4, 5 and 6; venter fuscous with wide creamy bands on sternites 2, 3 and 4, two lateral and one small medial creamy spot on sternite 5; sternite 5 with a long row of loosely packed bristles; pygidial area (Fig. 6F) normal.

Holotype, female, P. H. Timberlake, HELENDALE, CALIF., Sept. 14, 1935 (P. H. Timberlake). Allotype, male, Cushinbury Spgs., Calif., August 16, 1937, on *Solidago confinis* (P. H. Timberlake). Paratypes, male, Cochella, Riverside Co., Calif., July 15, 1927 (F. H. Wymoure); male, Cushinbury Spgs., Calif., Sept. 1, 1936 (P. H. Timberlake); female, male, Cushinoury Spgs., Calif., Aug. 16, 1937, on *Solidago confinis* (P. H. Timberlake); 2 females, 4 males, Cushinbury Spgs., San Bernardino Co., Calif., Aug. 19, 1932 (C. D. Michener); male, 15 mi. n. of El Paso, Tex., June 23, 1942 (H. A. S.); El Paso, Tex., Oct. 3, 1943 (R. W. Strandtmann); 2 males, Florence, Ariz., May 30, 1903; male, Gila Valley, Ariz., Sept. 13, 1935 (Parker); 4 females, Helendale, Calif., Sept. 14, 1935 (P. H. Timberlake); female, Jacumba, Calif., Aug. 12, 1935 (E. I. Beamer); 3 males, Jacumba, Calif., Aug. 12, 1935 (Jean Russell); female, male, 10 to 17 mi. e. of Las Cruces, N. M., June 18, 1942 (H. A. S.); male, 10 mi. e. of Mesa, Ariz., June 11, 1942 (E. C. Van Dyke); 3 females, 9 males, 20 mi. e. of Mesa, Ariz., June 11, 1942 (E. C. Van Dyke); 4 males, female, 25 mi.

e. of Mesa, Ariz., June 11, 1942 (H. A. S.); male, Phoenix, Ariz., Sept. 1, 1935 (Parker); male, Salt River Mts., Ariz., 1300 ft. elev., May 9, 1926 (A. A. Nichol); male, Whitewater Cyn., Calif., Sept. 4, 1935, at *Lepidospartum squamatum* (P. H. Timberlake); 2 females, Yucca Val., Calif., Sept. 20 and 30, 1944 (P. H. Timberlake); female, Yucca Val., Calif., Oct. 5, 1934 (A. J. Basinger).

### *Eucerceris baja* Scullen, new species

Figs. 7A, B, C; 14

*Male.* Length 11 mm. Head subequal to thorax in width, moderately punctate, clothed with short silvery hairs; mandibles non-dentate, yellow becoming fulvous on the distal third; clypeus tridentate on the apical margin of the medial lobe, creamy yellow except for the denticles which are fulvous; antennæ normal in form, fuscous dorsally becoming lighter ventrally, yellow patches on scapes; front with sides subparallel, dark, narrow vittæ extending through antennal scrobes to clypeal border, pale vittæ equal in dorsal extent; vertex, occiput and genæ black except for ferruginous areas back of compound eyes.

Thorax moderately pitted, less so on creamy areas, black except for band on posterior border of pronotum extending from and including tubercles, two irregular patches on lateral wings of pronotum, four small spots on the anterior part of the mesoscutum, the tegula, band on the anterior third of the scutellum, the metanotum, large lateral patches on the propodium, two lateral patches on the mesospectus, and a somewhat broken ventral stripe between the coxæ extending from the procoxæ to the metacoxæ all creamy yellow; enclosure deeply ridged subparallel to base; legs ferruginous to fulvous with some creamy yellow patches on all coxæ, profemoratae, protibiæ, pro- and metatrochanters; wings subhyaline with a darkened area on the costal third of the forewing extending over the distal two thirds; second submarginal cell not petiolate. (Fig. 7B).

Abdomen sparsely punctate on convex ridges, deeply and closely pitted on concave areas; tergum black with narrow creamy yellow bands on posterior ridges of tergites 2, 3, 4, 5 and 6; a broad band on tergite 1; venter fuscous with wide creamy bands on sternites 2 and 3, lateral patches of creamy yellow on sternites 4 and 5; sternites 3 and 4 with long rows of long curved bristles, sternite 5 with a very short row of much shorter bristles; pygidial area (Fig. 7C) normal in form.

Holotype, male, Calif. Acad. Sci., Ent., 20 mi. n. of MESQUITAL, LOWER CALIFORNIA, Sept. 27, 1941 (Ross and Bohart). Paratypes, 5 males, Angeles Bay, Gulf of Calif., June 26 and 27, 1921 (E. P. Van Duzee); 2 males, 30 and 40 mi. s. of El Arco Mine, Lower

California, June 23, 1938 (Michelbacher and Ross); 3 males, Las Animas Bay, Gulf of Calif., May 8, 1921 (E. P. Van Duzee); 13 males, 20 mi. n. of Mesquital, Lower California, Sept. 27, 1941 (Ross and Bohart).

#### EUCERCERIS ELEGANS Cresson

Since the author's 1939 publication on this genus he has had an opportunity to study a large collection of closely related species taken in the southwest. These studies have cast a shadow of doubt on some of the present synonymy relating to *E. elegans* Cr. as set forth in the above publication. Biological studies may be necessary to prove that *E. pimarum* Ckll. and Rohwer is the female of *E. elegans* Cr. and further studies may show that *E. respera* Scullen, new species, is a synonym of *E. Elegans*.

#### EUCERCERIS BITRUNCATA Scullen

A careful examination of a large series of this species from the southwest fails to show any structural difference between it and *E. pimarum* Ckll. and Rohwer with the exception of color shade of the lighter markings and the width of the bands of yellow on the abdomen. The lighter markings of *E. bitruncata* Scullen are more yellow and the abdominal bands are wider than is true for *E. pimarum* Ckll. and Rohwer. Further comparisons with the type may show these two species to be synonymous. Compare notes under *E. conata* Scullen and *E. elegans* Cr.

#### *Eucerceris hespera* Scullen, new species

Figs. 8A, B, C; 14

This may prove to be the male of either *E. conata* Scullen or *E. bitruncata* Scullen. It is similar in general appearance to the male of *E. canaliculata* (Say) from which it is distinguished by its smaller size and by the fact that the yellow of the face fuses above the antennæ, which is not usual with the latter species. It is also very similar to *E. triciliata* Scullen, new species, from which it is separated by the difference in the row of bristles on the fifth sternite.

*Male.* Length 11 mm. Head slightly wider than thorax, moderately punctate, clothed with very short hairs; mandibles non-dentate, ferruginous becoming darker distally; clypesu tridentate on the apical margin of the medial lobe, setæ longer on the apical margin and denticles which are ferruginous; antennæ normal in form, ferruginous proximally becoming darker distally; front,

sides subparallel, yellow except for isolated short vittæ through the antennal scrobes; vertex black; occiput and genæ fuscous.

Thorax moderately to sparsely punctate, fuscous to ferruginous except broad band on pronotum extending from and including tubercles, four short vittæ on mesocutum, wide band on scutellum and triangular areas on mesopectus back of tubercles, which are yellow; enclosure ridged at 45° angle to base except distal third which is smooth; legs ferruginous except for yellow patches on precoxæ; wings subhyaline except for a clouded area on the distal two thirds of the costal half of the forewing; second submarginal cell not petiolate. (Fig. 8B).

Abdomen moderately punctate, broad yellow bands on tergites 1, 2, 3, 4 and 5, lateral yellow patches on sternites 3 and 4; remainder of abdomen ferruginous; sternites 3 and 4 with long rows of long bristles on posterior margins; sternite 5 with a very short row of short bristles on the posterior margin; pygidial area (Fig. 8C) normal.

Holotype, male, Calif. Acad. Sci., Ent., 25 mi. e. of EL PASO, TEX., U. S. Highway 62, Desert, July 13, 1942 (H. A. Scullen). Paratypes, 2 males, 20 mi. n. of El Paso, Tex., June 19, 1942 (H. A. S.); 2 males, El Paso Tex., June 19, 1942 (E. C. Van Dyke); 42 males, 10 to 20 mi. e. of El Paso, Tex., June 21-22, 1942 (H. A. S.); 37 males, 10 to 20 mi. e. of El Paso, Tex., June 21 - 22, 1942 (E. C. Van Dyke); 4 males, 25 mi. e. of El Paso, Tex., July 13, 1942 (H. A. S.); 2 males, 25 mi. e. of El Paso, Tex., July 13, 1942 (E. C. Van Dyke); 2 males, El Paso, Tex., Sept. 27, 1943 (R. W. Strandtmann); male, Las Cruces, N. M., June 19, 1942 (E. C. Van Dyke); male, Van Horn, Tex., June 24, 1942 (E. C. Van Dyke).

#### EUCERCERIS CONATA Scullen

This species was taken in large numbers by Dr. E. C. Van Dyke and the writer in the region of El Paso, Tex., in the summer of 1942. *E. respera* Scullen, new species, and *E. triciliata* Scullen, new species, are so near in size, general appearance and distribution to both *E. conata* Scullen and *E. bitruncata* Scullen it has been impossible to associate them positively, but it is probable each of the new males will prove to be one of the above species when further biological studies are made.

#### *Eucerceris triciliata* Scullen, new species

Figs. 9A, B, C; 15

This may prove to be the male of *Eucerceris conata* Scullen or



*E. bitruncata* Scullen. It superficially resembles each of the two species and is abundant in the same area. The male of this species closely resembles the male of *E. canaliculata* (Say) from which it is distinguished by the relatively smaller and more compact

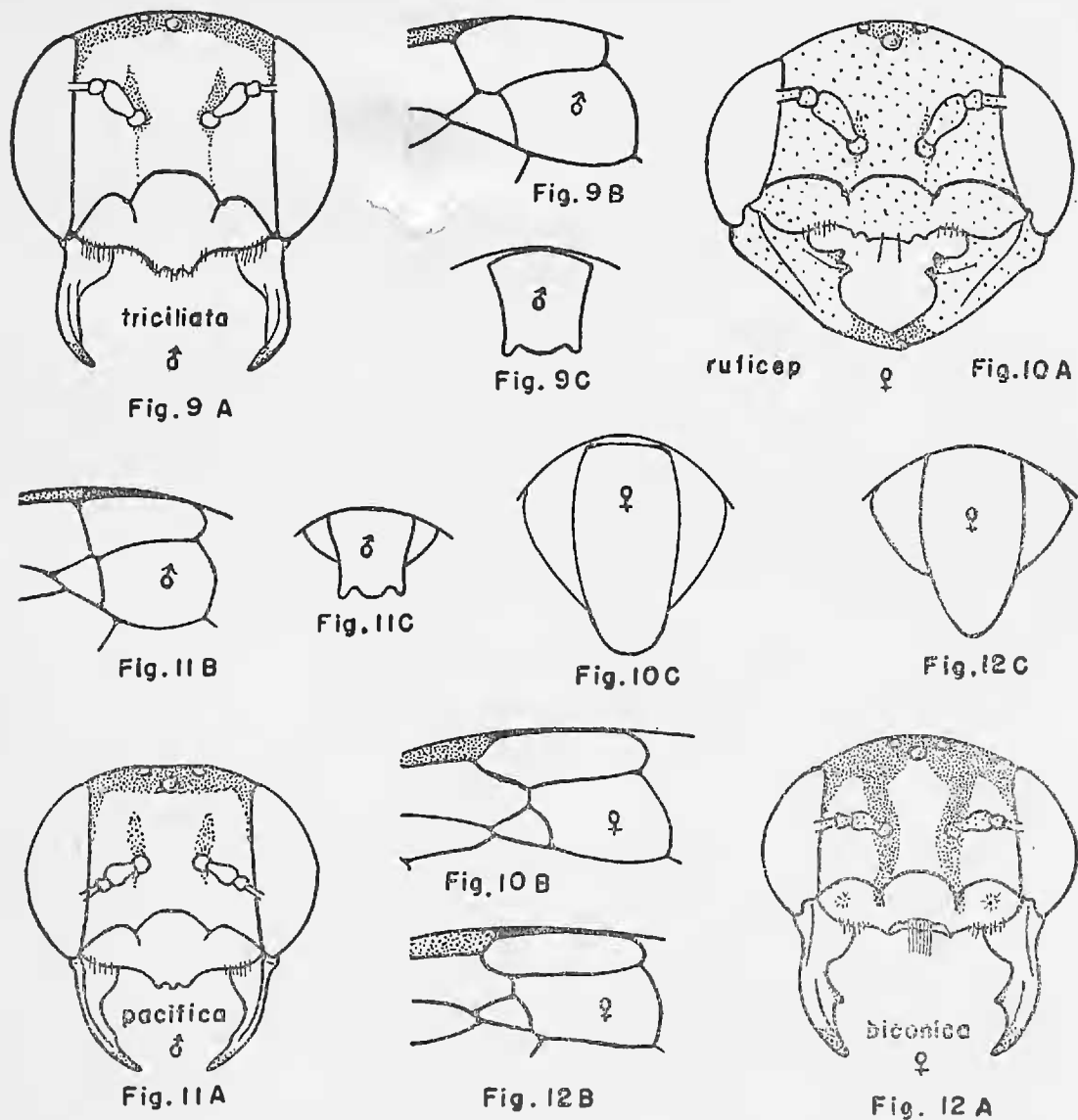


Fig. 9A. *E. triciliata*, ♂, face; 9B. fore wing; 9C. pygidial area. Fig. 10A. *E. ruficeps*, ♀, face; 10B. ♀, fore wing; 10C. ♀, pygidial area. Fig. 11A. *E. pacifica*, ♂, face; 11B. ♂, fore wing; 11C. ♂, pygidial area. Fig. 12A. *E. biconica*, ♀, face; 12B. ♀, fore wing; 12C. ♀, pygidial area.

row of bristles on the fifth sternite of the latter species and the fact that the pale vittæ, except in rare cases, fuses above the antennæ. In *E. canaliculata* the pale vittæ do not as a rule fuse.

*Male.* Length 11 mm. Head slightly wider than thorax, moderately punctate, clothed with short silvery hairs becoming longer on the apical border of the clypeus; mandibles nondentate, yellow becoming dark at the tips; tridentate on the apical border of the

medial lobe, normal in form, yellow except for the denticles which are fuscous; antennæ ferruginous proximally becoming darker distally; front creamy yellow fusing above the antennæ, dark vittæ short and narrow passing through the antennal scrobes; vertex black, occiput fuscous turning to ferruginous on the genæ.

Thorax moderately pitted and clothed with short hairs; tergum background black with wide band on prothorax extending from and including tubercles, two small median spots and an elongated area confluent with the tegula on the mesoscutum, tegula, band on scutellum and the metanotum which are creamy yellow; propodium dark medially becoming ferruginous laterally with a large yellow patch on each side; enclosure dark with slight ridges subparallel to base; pleura and venter ferruginous with yellow patches back of the prothoracic tubercles on the mesopectus and yellow on the meso- and metasternum; legs ferruginous with traces of yellow on coxæ and pro- and mesatibia; wings subhyaline with darkened areas on the forewings from the marginal cell to the apex; second submarginal cell not petiolate. (Fig. 9B).

Abdomen sparsely pitted, broad yellow bands on tergites 1, 2, 3, 4, 5 and 6, otherwise fulvous to fuscous; venter fulvous to fuscous with a small yellow spot on sternite 2, a broken yellow band on sternite 3 and lateral yellow spots on sternite 4; long rows of long bristles on the posterior borders of sternites 3, 4 and 5, that on sternite five being slightly smaller; pygidial area normal (Fig. 9C).

Holotype, male, Calif. Acad. Sci., Ent., 20 mi. n. of EL PASO, TEX., June 19, 1942 (H. A. Scullen). Paratypes, male, Albuquerque, N. M., June 27, 1931 (H. A. S.); 3 males, Alpine, Tex., July 1, 8, 1942 (H. A. S.); 2 males, Alpine, Tex., July 1, 8, 1942 (E. C. Van Dyke); 2 males, Bisbee, Ariz., July 18, 1942 (H. A. S.); male, Carrizozo, N. M., July 2, 1929; male, Davis Mts., Tex., July 9, 1942 (E. C. Van Dyke); 18 males, 20 to 33 mi. e. of Deming, N. M., 4000 to 4300 ft. elev., Aug. 2, 1946 (H. A. S.); 8 males, Douglas, Ariz., June 16, 1942 (H. A. S.); male, 30 mi. n. of Douglas, Ariz., July 17, 1942 (H. A. S.); 3 males, Douglas, Ariz., June 16, 1942, (E. C. Van Dyke); male, El Paso, Tex., July 14, 1942 (H. A. S.); 21 males, El Paso, Tex., June 19 and 23, 1942 (E. C. Van Dyke); 19 males, 15 to 20 mi. n. of El Paso, Tex., June 19 and 23, 1942 (H. A. S.); 39 males, 10 to 25 miles e. of El Paso, Tex., June 21 and 23, July 13, 1942 (H. A. S.); 20 males, 10 to 20 mi. e. of El Paso, Tex., July 21-22, 1942 (E. C. Van Dyke); male, 100 mi. e. of El Paso, Tex., July 13, 1942 (H. A. S.); male, 100 mi. e. of El Paso, Tex., July 13, 1942 (E. C. Van Dyke); male, Las Cruces, N. M., June 18, 1942

(E. C. Van Dyke); male, 28 mi. n. e. of Las Cruces, N. M., Aug. 2, 1946 (H. A. S.); 2 males, Lordsburg, N. M., 4600 ft. elev., Aug. 1, 1946 (H. A. S.); 3 males, McNary, Hudspeth Co., Tex., June 14, 1942 (H. A. S.); male, Mesilla Park (state?) Oct. 14, 0000 (Cockerell); 3 males, Patagonia, Ariz., June 15, 1942 (E. C. Van Dyke); 2 males, Sierra Blanca, Tex., 4500 ft. elev., June 24, 1942 (H. A. S.); 2 males, Sierra Blanca, Tex., July 9, 1917; male, Sierra Blanca, El Paso Co., Tex., July 8, 1917 (J. Bequaert); 3 males, Silver City, N. M., 5000 - 6000 ft. elev., July 3 and 9, 1936 (R. T. Kellogg); male, Socorro, N. M., 4579 ft.

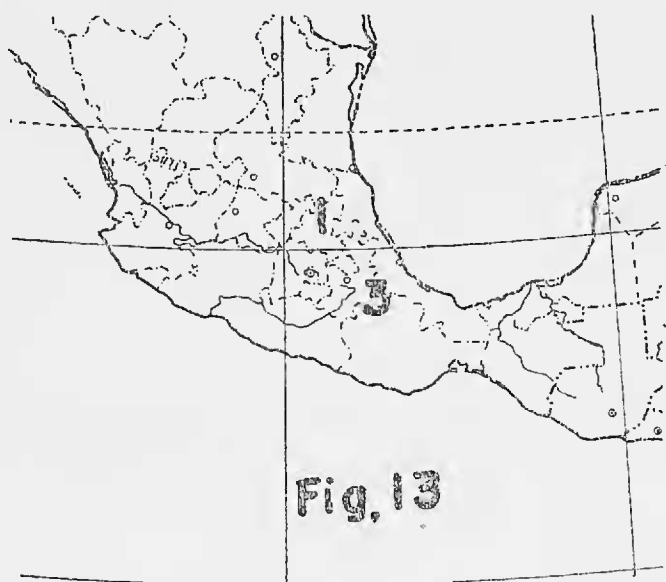


Fig. 13. Distribution map for *E. brunnea* (1) and *E. melanosa* (3).

elev., Aug. 4, 1946 (H. A. S.); 4 males, Tombstone, Ariz., 4500 ft. elev., June 15, 1942 (H. A. S.); male, Van Horn, Tex., June 24, 1942 (E. C. Van Dyke).

#### *Eucerceris ruficeps* Scullen, new species

Figs. 10A, B, C; 14

This species superficially resembles *E. conata* Scullen, *E. elegans* Cresson and *E. bicornuta* Scullen from which it may be separated by the structure of the clypeal margin.

*Female.* Length 12 mm. Head noticeably wider than the thorax; moderately punctate, clothed with short amber hairs becoming longer on the clypeus; entire head ferruginous except for a crescent-shaped area on the vertex connecting the two compound eyes and embodying the ocelli, a darkened area on the occiput, the

tips of the mandibles and the mandibular denticles; mandibles with two contiguous denticles subequal in size and form; clypeus broad and short, clypeal border with two widely separated pairs of denticles, the proximal ones more acute, between the pairs of denticles is a slight medial elevation on the medial lobe, below this a few long bristles and below the bristles a broad truncate process; front slightly converging dorsally; antennæ normal in form, ferruginous.

Thorax normally punctate, clothed with short amber hairs; tergum black except for the following parts which are yellow: broad band on the posterior border of the prothorax, extending from and including the tubercles, patches back of the tubercles, the tegula, broad band on scutellum, metanotum, large patches on the propodium, minute elongated lateral spots on the enclosure; enclosure deeply ridged at an angle with the base; venter black with large ferruginous areas on the mesospectus, meso- and metasternum; legs ferruginous except for coxæ which are darker, a spot of yellow on the metacoxæ; wings subhyaline except for a darkened area on the costal half of the forewing, second submarginal cell petiolate. (Fig. 10B).

Abdomen closely and finely punctate, clothed with very short silvery hairs; tergum with broad yellow bands on all tergites except the 6th; sternum with broad yellow bands on sternites 2, 3 and 4, that on sternite 2 divided, the others emarginate; pygidial area (Fig. 10C) with sides subparallel, slightly truncate distally, bordered by the usual carina and fringed with bristles.

Holotype, male, Calif. Acad. Sci., Ent., ANTIOCH, CALIF., Aug. 7, 1938 (J. W. McSwain). Paratypes, male, Antioch, Calif., June, 8, 1933, (G. E. & R. M. Bohart); male, Antioch, Calif., Sept. 2, 1938 (G. E. Bohart); male, Antioch, Calif., May 21, 1936 (E. C. Van Dyke); male, Antioch, Calif., Sept. 15, 1935, male, Johnnie, Nev., July, 1935.

#### *Eucerceris pacifica* Scullen, new species

Figs. 11A, B, C; 14

*Male.* Length 10 mm. Moderately to sparsely punctate, black with cream colored markings, clothed with very short silvery hairs becoming a distinct row of longer hairs on the clypeal border. Head subequal to thorax in width; mandibles nondentate, cream colored, except tips which are fuscous; clypeus tridentate, cream colored; antennæ normal in form, fuscous except for creamy patches on the scape; front with cream color fusing above the antennæ, short black vittæ passing through the antennal scrobes; vertex, occiput and genæ black except for creamy spots confluent with the lateral borders of the compound eyes.

Thorax black except for a broad band on the prothorax extending from and including the tubercles, patches on the tegulæ, four somewhat pyriform patches on the mesoscutum, a divided band on the scutellum, the metanotum, large pyriform patches on the propodium, which are cream colored; sternum and pleura black except for a somewhat T-shaped area on the mesopectus with the wings of the T fusing with patches back of the tubercles of the thorax,



Fig. 14

Fig. 14. Distribution map for *E. velutina* (2), *E. melanovittata* (4), *E. mellea* (5), *E. hespera* (7), *E. ruficeps* (8), *E. baja* (10) and *E. pacifica* (11).

patches on the prosternum, mesasternum and metasternum which are cream colored; enclosure moderately ridged at an angle with the base, with a central groove; legs black and creamy colored becoming fuscous to fulvous on the tarsi; wings subhyaline except for a darkened patch in the region of the marginal, second submarginal and third submarginal cells; second submarginal cell not petiolate (Fig. 11B).

Abdomen black except for a broad emarginate band on tergite 1, a broad band on sternite 2, complete narrow bands on the distal ridges of tergites 3, 4, 5 and 6, broken bands on proximal ridges of tergites 3 and 4, broken irregular band on sternite 2, band on sternite 3, lateral patches on sternites 4 and 5 which are cream colored; sternites 3 and 4 with long rows of long bristles, sternite five with a short row of short bristles; pygidial area (Fig. 11C) normal in form.

Holotype, male, Calif. Acad. Sci., Ent., SAN PEDRO, LOWER CALIFORNIA, Oct. 7, 1941, on Compositæ (Ross and Bohart). Paratypes, two males, San Pedro, Lower California, Oct. 7, 1941, on Compositæ (Ross and Bohart); male, 10 mi. northwest of La Pez, Lower California, Oct. 6, 1941 (Ross and Bohart).

#### EUCERCERIS INSIGNIS Provancher

Four males and one female of this species taken at Myers, Humboldt Co., Calif., July 7, 1937, by Dr. E. C. Van Dyke extends the known range much farther north than formerly.

#### EUCERCERIS FERRUGINOSA Scullen

The known range of this species has been considerably extended by a collection of six specimens taken 20 mi. north of Mesquital, Lower California, Sept. 27, 1941, by Ross and Bohart.

#### *Eucerceris biconica* Scullen, new species

Figs. 12A, B, C; 15

*Female.* Length 10 mm. Head subequal to thorax in width, moderately pitted, clothed with very short amber hairs; mandibles with one undivided tooth, ferruginous with the tips and denticles fuscous to black; clypeus yellow with the dark vittæ extending half way between the lobes, lateral lobes with low rounded cone-shaped elevations, medial lobe very flat; clypeal border with two blunt lateral projections, between is a smaller blunt medial projection, mesad of each lateral process is a depressed spot, above each depression is a minute denticle and between the denticles there is a short row of long bristles; antennæ normal in form, ferruginous proximally becoming darker distally; front with lateral yellow areas blending into ferruginous confluent with the compound eyes, similar narrowed patch between the antennæ, fuscous to black vittæ extending through the antennal scrobes to and onto the clypeus; vertex fuscous to black; occiput and genæ ferruginous.

Thorax sparsely punctate, background fuscous to black; prothorax with a broad yellow band bordered with fulvous extending from and including the tubercles; mesoscutum with an irregular

band of ferruginous; scutellum fulvous becoming yellow distally; metanotum yellow; propodium with large lateral yellow patches turning to ferruginous and then to fuscous medially; enclosure nearly smooth with the inconspicuous ridges subparallel to base, with a medial groove, fuscous; legs ferruginous; wings subhyaline, clouded area of the forewing extending over the anterior two thirds, second submarginal cell petiolate. (Fig. 12 B).

Abdomen largely yellow on the tergum with the depressed areas and proximal border fuscous to fulvous; venter fulvous to ferruginous with traces of yellow; pygidial area (Fig. 12C) rounded distally but truncate proximally, bordered by a carina and fringed with bristles.

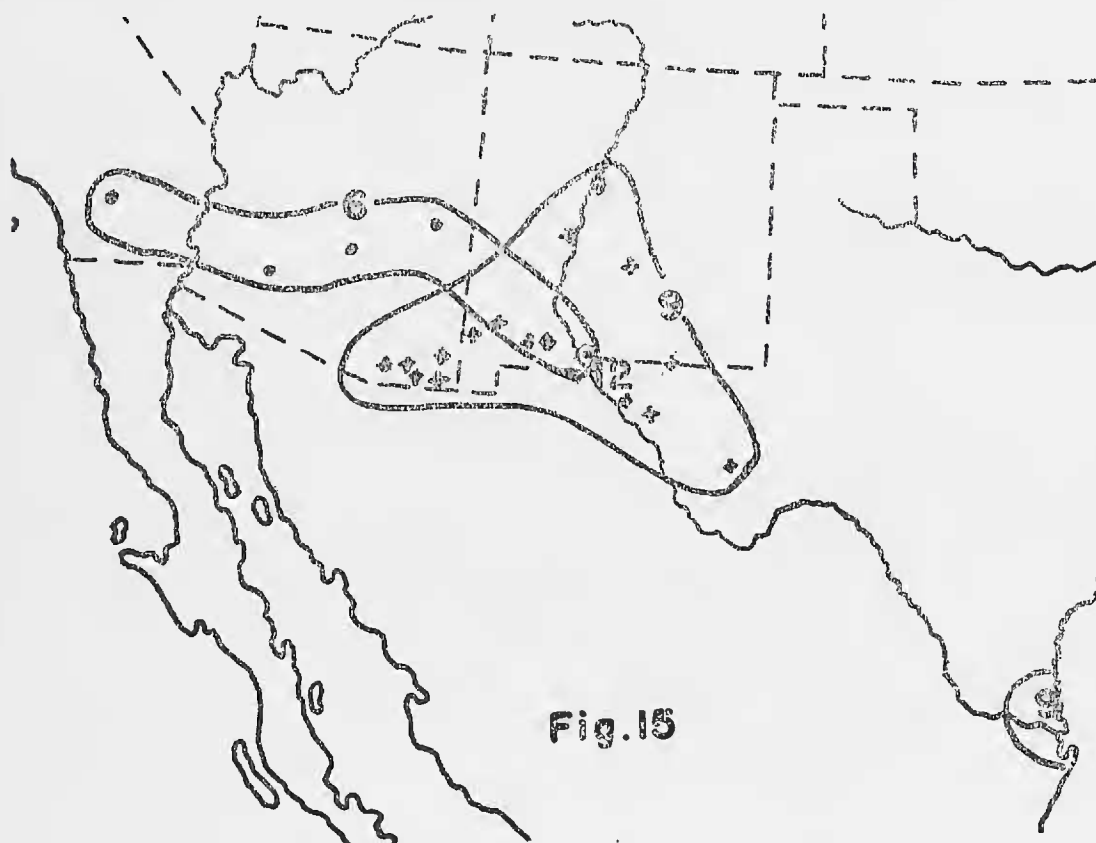


Fig. 15. Distribution map for *E. arenaria* (6), *E. triciliata* (9) and *E. biconica* (12).

Holotype, female, Calif. Acad. Sci., Ent., 15 mi. north of EL PASO, TEX., June 23, 1942 (H. A. Scullen).

#### EUCERCERIS CANALICULATA (Say)

The records extend the known range of this species into Mexico: Female, San Carlos, Chihuahua, Mex., June 14, 1938 (Rollin H. Baker); Fuente, Mex., June 12, 1938 (Rollin H. Baker); 20 mi. north of Mesquital, Lower Calif., Mex. (462.5 mi. south of Tijuana), Sept. 27, 1941 (Ross and Bohart); 20 mi. north of Comondu, Lower Calif., Mex. (758.3 mi. south of Ti-

juana); 20 mi. south of El Arco, Lower Calif., Mex. (537.4 mi. south of Tijuana); 10 mi. east of San Ignacio, Lower Calif., Mex. (about 561 mi. south of Tijuana). The species was found in large numbers in the region of El Paso, Tex., by Dr. E. C. Van Dyke and the writer in June and early July, 1942.

## GROUP C

*Second submarginal cell petiolate in both sexes*

## EUCERCERIS VITTATIFRONS Cresson

The known range of this species is extended much farther to the southeast by a female taken in the Chisos Mts., Tex., Sept. 19, 1938, by D. J. and J. N. Knull.

## EUCERCERIS TRICOLOR Cockerell

This species was taken in large numbers in southern Arizona by Dr. E. C. Van Dyke and the writer in June and early July, 1942.

## EUCERCERIS MONTANA Cresson

The known range of this species has been extended farther west into southern Arizona by the following records: male, Huachuca Mts., Ariz., June 15, 1920 (F. X. Williams); male, female, 10 mi. east of Douglas, Ariz., Aug. 11, 1940 (E. S. Ross); 3 males, Douglas, Ariz., June 16, 1942, (H. A. Scullen); male, female, 30 mi. north of Douglas, Ariz., July 17, 1942 (H. A. Scullen); 2 males, Douglas, Ariz., June 16, 1942 (E. C. Van Dyke); male, 23 mi. northeast of Douglas, Ariz., 4500 ft. elev., Aug. 1, 1946 (H. A. Scullen). The species was taken in considerable numbers from the Davis Mts., south to the Chisos Mts., in June and early July, 1942, by Dr. E. C. Van Dyke and the writer.

## EUCERCERIS ANGULATA Rohwer

The following records are of interest for this uncommon species: 9 males, San Pedro, Lower Calif., Mex., Oct. 7, 1941 (Ross and Bohart); 6 males, 3 females, 10 miles east of San Ignacio, Lower Calif., Mex., (about 561 mi. south of Tijuana), Sept. 30, 1942 (Ross and Bohart); 2 males, Coyote Cove, Concepcion Bay, Lower Calif., Mex., Oct. 1, 1941 (Ross and Bohart); male, Big. Cyn., Sierra Laguna, Lower Calif., Mex., Oct. 13, 1941 (Ross and Bohart); male, Bensen, Ariz., 3700 ft. elev., July 26, 1946 (H. A. Scullen).